

CLAIMS**We claim:**

1. A display device having rendered thereon a generic user control point tool for discovering, controlling, and displaying Universal Plug and Play (UPnP) devices, comprising a plurality of selectable discovery types, a field for displaying discovery options, and a area for initiating a discovery process for UPnP devices.

2. The display device of claim 1, wherein the field for displaying discovery options includes a first button for displaying all available discovery options.

3. The display device of claim 1, further comprising a devices found display field having a second button for displaying all of the devices found, the devices found display field displaying one of the devices found.

4. The display device of claim 3, further comprising a third button for displaying a device properties display containing a plurality of fields for displaying device property information for the UPnP device displayed in the devices found display field.

5. The display device of claim 3, further comprising a fourth button for viewing a presentation page for the UPnP device, activation of said fourth button opening a browser and connecting to a presentation URL for the presentation page.

6. The display device of claim 3, further comprising a service display field having a fifth button for displaying all of the services for the UPnP device displayed in the devices found display field, the service display field displaying one of the services.

5 7. The display device of claim 6, further comprising a service description link display field and a view button for linking to a description of the service displayed in the service display field.

8. The display device of claim 6, further comprising a query variable field
10 having a sixth button for displaying all of the state variables for the service displayed in the service display field, the query variable field displaying one of the state variables.

9. The display device of claim 8, further comprising a seventh button for
15 querying the value of the state variable displayed in the query variable field and a query state value field for displaying the value of the state variable.

10. The display device of claim 6, further comprising an invoke action field having an eighth button for displaying all of the actions for the service displayed in the service display field, the invoke action field displaying on of the actions.

20 11. The display device of claim 10, further comprising an action arguments field for entering arguments for the action displayed in the invoke action field.

12. The display device of claim 10, further comprising a ninth button for invoking the action displayed in the invoke action field.

13. The display device of claim 12, further comprising an action out
5 arguments field for displaying results of the action invoked.

14. In a computer system having a graphical user interface including a display and a user interface selection device, a method of discovering and controlling Universal Plug and Play (UPnP) devices from a window on the display, comprising the steps of
10 receiving a discover type selection signal indicative of a user selecting one of a plurality of discover types, receiving a start discovery selection signal indicative of a user selecting a start discovery button on the window, and initiating a UPnP discovery process.

15. The method of claim 14, further comprising the steps of receiving a find by type menu display selection signal, displaying a selectable list of UPnP device types, and receiving a UPnP device type selection signal indicative of a user selecting one of the UPnP device types, and wherein the step of initiating a UPnP discovery process comprises the step of initiating a UPnP discovery process for UPnP devices of the selected UPnP device type.

20

16. The method of claim 14, further comprising the step of receiving a unique device name (UDN) input from a user, and wherein the step of initiating a UPnP

discovery process comprises the step of initiating a UPnP discovery process for a UPnP device having the UDN.

17. The method of claim 14, further comprising the steps of displaying a
5 selectable list of UPnP devices discovered by the discovery process, receiving a device selection signal indicative of a user selection of one of the UPnP devices.

18. The method of claim 17, further comprising the steps of receiving a view
presentation selection signal, opening a web browser, connecting to a manufacturer's
10 presentation page for one of the UPnP devices selected by the user, and displaying the manufacturer's presentation page on the browser.

19. The method of claim 17, further comprising the steps of receiving a
display device properties selection signal, and displaying device properties for the
15 selected UPnP device.

20. The method of claim 19, further comprising the steps of displaying a
selectable list of services available for the selected UPnP device, receiving a service
selection signal indicative of a user selection of one of the services.

21. The method of claim 20, further comprising the steps of displaying linking
information for a description of the selected service, receiving a view information signal

09867303-052901

indicative of a user selection of a view information button, and displaying information for the selected service.

22. The method of claim 19, further comprising the steps of displaying a
5 selectable list of state variables for the selected UPnP device, receiving a state variable selection signal indicative of a user selection of one of the state variables, receiving a query variable selection signal, initiating a query of the selected state variable, receiving a value for the selected state variable, and displaying the value.

10 23. The method of claim 20, further comprising the steps of displaying a list of actions available for the selected service, receiving an action selection signal indicative of a user selection of one of the actions, receiving an invoke action signal, and invoking the selected action.

15 24. The method of claim 23, further comprising the step of receiving an argument for the selected action.

25. The method of claim 15, further comprising the step of displaying eventing information for the selected UPnP device.

20

26. The method of claim 14, further comprising the step of displaying status information to aid a user in discovering and controlling Universal Plug and Play (UPnP) devices from the window on the display.